

REPORT ON MACHINERY.

THUR. 1 MAY 1902

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland Date, first Survey 3rd May 1901 Last Survey 30th April 1902

on the Screw Steamer Anna Hermine (Number of Visits 23)

Master J. F. Crozet Built at Middlesboro By whom built Harkness & Son (157) Tons { Gross 1219 Net 769 When built 1902

Engines made at Sunderland By whom made Mac Coll & Pollock (68) when made 1902

Boilers made at Sunderland By whom made Mac Coll & Pollock when made 1902

Registered Horse Power Owners Societe de Navigation L'Aquitaine Port belonging to Bordeaux

Is Refrigerating Machinery fitted no Is Electric Light fitted no

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 17. 28 1/2 - 46 Length of Stroke 33 Revs. per minute 70 Dia. of Screw shaft 10 1/4 as per rule 10 1/8 as fitted 10 1/8 Lgth. of stern bush 42 1/2

No. of Tunnel shaft 9 1/2 as per rule 8.68 as fitted 9 Dia. of Crank shaft journals 9.12 as per rule 9 1/2 as fitted 9 1/2 Dia. of Crank pin 9 1/2 Size of Crank webs 13 1/2 x 6 1/8 Dia. of thrust shaft under bars 9 1/2

Dia. of screw 12. 1 1/2 Pitch of screw 14. 1 1/2 No. of blades 4 State whether moveable no Total surface 57.6 sq ft

No. of Feed pumps 2 Diameter of ditto 8 1/2 Stroke 14 1/2 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 14 1/2 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 8 1/2 x 8 Ballast No. and size of Suctions connected to both Bilge and Donkey pumps 6 x 4 x 6 Feed

Engine Room 2 of 2 1/4 Engine Room 2 of 2 1/4 In Holds, &c. 2 of 2 1/4 each hold

of bilge injections 1 sizes 3 3/4 Connected to condenser, or to circulating pump C-P Is a separate donkey suction fitted in Engine room & size yes 3

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the discharge pipes above or below the deep water line above

Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate yes

What pipes are carried through the bunkers none How are they protected yes

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 2025 sq ft Is forced draft fitted no

No. and Description of Boilers one S.E. G.L. Multitubular Working Pressure 180 lb Tested by hydraulic pressure to 360 lb

Date of test 10-4-02 Can each boiler be worked separately yes Area of fire grate in each boiler 59 sq ft No. and Description of safety valves to each boiler two direct spring Area of each valve 5.98 sq Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 15'-0" Length 10'-6" Material of shell plates Steel

Thickness 1 3/16 Range of tensile strength 29/32 Are they welded or flanged no Descrip. of riveting: cir. seams D.R. Rap long. seams Tri R. D.M. S

Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 17 1/2

Percentages of strength of longitudinal joint rivets 86.4% Plate Working pressure of shell by rules 184 lb Size of manhole in shell 16 x 12 in Bk. E. plate rivets 98.4% Rivets

No. of compensating ring flanged No. and Description of Furnaces in each boiler 3. Deighton's Material Steel Outside diameter 4'-8"

Length of plain part top 9 Thickness of plates crown 16 Description of longitudinal joint weld No. of strengthening rings yes bottom 16

Working pressure of furnace by the rules 183 lb Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 19/32

Thickness of stays to ditto: Sides 9 x 1 1/2 Back 8 3/4 x 1 1/2 Top 6 x 1 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lb

Material of stays Steel Diameter at smallest part 1.5" Area supported by each stay 66.76 sq Working pressure by rules 180 lb End plates in steam space:

Material Steel Thickness 6/16 Pitch of stays 15" x 15" How are stays secured nut & lock Working pressure by rules 181 lb Material of stays Steel

Area at smallest part 4.1 sq Area supported by each stay 225 sq Working pressure by rules 182 Material of Front plates at bottom Steel

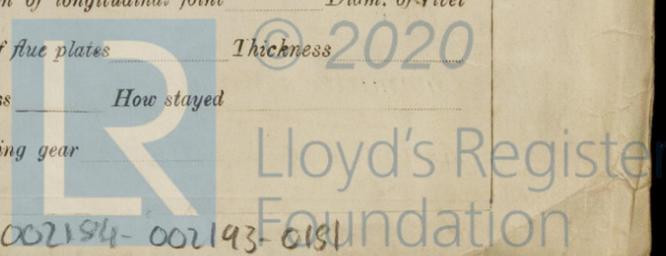
Thickness 3/4 Material of Lower back plate Steel Thickness 5/16 Greatest pitch of stays 14" Working pressure of plate by rules 180 lb

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 9 x 13 1/2

Clearance across wide water spaces 14" Working pressures by rules 184 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/4 x 13/16 x (2) Length as per rule 24 3/4 Distance apart 7 1/2 Number and pitch of Stays in each ten. 6 1/4 pitch

Working pressure by rules 181 lb Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness



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DONKEY BOILER— No. *one* Description *Patent Vertical*
 Made at *Amsau* By whom made *Cochran & Co* When made *21.2.02* Where fixed *Stokehold*
 Working pressure *90* tested by hydraulic pressure to *150* No. of Certificate *6176* Fire grate area *20 1/4* Description of safety valves *direct Spring*
 No. of safety valves *2* Area of each *3.97* Pressure to which they are adjusted *90 lb* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *6'-6"* Length *14'-0"* Material of shell plates *Steel* Thickness *1/2"* Range of tensile strength *27/32* Descrip. of riveting long. seams *Double* Dia. of rivet holes *29/32* Whether punched or drilled *Ø* Pitch of rivets *2 3/4*
 Lap of plating *4 1/8"* Per centage of strength of joint *69.17%* Rivets *69.17%* Thickness of shell crown plates *7/16* Radius of do. *3'-3"* No. of Stays to do. *Radern*
 Dia. of stays *Round* Diameter of furnace Top *2'-7 1/2"* Bottom *✓* Length of furnace *✓* Thickness of furnace plates *19/32* Description of joint *Reveled* Thickness of furnace crown plates *19/32* Stayed by *None* Working pressure of shell by rules *103 lb*
 Working pressure of furnace by rules *101 lb* Diameter of uptake *2 1/2"* Thickness of uptake plates *11/16 + 13/16* Thickness of water tubes *1/4"*

SPARE GEAR. State the articles supplied:—

Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, spare coupling bolts & nuts, spare feed & bilge pumps valves, assorted bolts & nuts. Spare propeller.

The foregoing is a correct description,

Manufacturer. *MacLellan & Pollock*

Dates of Survey while building: During progress of work in shops— *1901— May. 3, June 19, 28, Sept. 13, 18, Oct. 2, 11, 18, 24, 25, Nov. 9, 15, 19, 22, Dec. 5, 1902— Jan. 15, 22, 28*
 During erection on board vessel— *July 22, April 10, 11, 30.*
 Total No. of visits *23.*

Is the approved plan of main boiler forwarded herewith *no*
 " " " donkey " " " *no*

General Remarks (State quality of workmanship, opinions as to class, &c.)

Material of screw shaft *Wrot Iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no*
 Is the after end of the liner made water tight in the propeller boss *yes* If the liner is more than one length are the joints burned *✓*
 If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *✓* If two liners are fitted, is the shaft lapped or protected between the liners *Painted*

The machinery built under Special Survey the material and workmanship found good and efficient
The main boiler & steam pipes tested under hydraulic pressure to 150 lb and found sound & efficient at that pressure.
The engines tried under steam at their working pressures and found Satisfactory
In my opinion this vessel is worthy of the notification of ~~4.02~~ L.M.C 4.02 in the Register Book

It is submitted that this vessel is eligible for THE RECORD -i- L.M.C 4:02

The amount of Entry Fee.. £ *2 : 0 :* When applied for, *1. May 1902*
 Special £ *19 13 :*
 Donkey Boiler Fee £ : : When received, *30th April 1902*
 Travelling Expenses (if any) £ : :

L.S. 1.5.02
Leonard S. Halleross
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. 2 MAY 1902*

Assigned *+ L.M.C. 4.02*



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Certificate (if registered) to be sent to the Surveyors and requested not to write on or below the space for Committee's Minute.